CURRICULUM VITAE

Name: Bahman Arasteh
Degree: Doctor of Philosophy (Ph.D.)
Program: Software Engineering, Artificial Intelligence
Position: Associate Professor (Istinye University, Istanbul, Türkiye)

Short Biography:

Bahman Arasteh was born in January 1981 in Tabriz (Gocaman Təbriz). He is an Associate Professor in the software engineering department at Istinye University, Istanbul, Türkiye. In 2014, he received his Ph.D. degree in computer engineering (software engineering) from IAU University, Science and Research Branch, Tehran, Iran.

Recognized among the Top 2% of Scientists Worldwide (Stanford University, 2024) for outstanding contributions to software engineering and AI fields, based on research impact and citations.

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- Google Scholar: https://scholar.google.com/citations?user=ukwQU2IAAAAJ&hl=en

Languages

Turkish (mother tongue), English, Farsi

Education

Ph.D. 2009 –2014
- **Ph.D. in Computer Engineering-Software Engineering** from IAU, Science and Research Branch University, Tehran, Iran- **Ph.D Thesis** title: *Developing Inherently Resilient Software against Soft error using Algorithm Level Features*

M.S. 2004 – 2007
- **Master of Science in Computer Engineering-Software Engineering** from IAU University, Arak Branch, Arak, Iran- **Master's Thesis:** *Optimization of Grid Scheduling Algorithm*

B.S. 2000 – 2004
- **BS in Computer Engineering-Software Engineering** from IAU University, Iran

Research Interests

- Search-based Software Engineering
- AI-based Software Testing
- Software Security and Fault Tolerance
- Optimization and Machine Learning Algorithms and Applications
- Complex Networks

Academic Experience

2021-present - Associate Professor in the Department of Software Engineering, Faculty of Engineering and Natural Science, Istinye University, Istanbul Turkiye

2020- 2021 - Associate Professor in the IAU, Tabriz Branch, Tabriz, Azerbaijan Province, Iran

2014 - 2020 - Assistant Professor in IAU, Tabriz Branch, Tabriz, Azerbaijan Province, Iran

2004 –2014 - Lecturer and researcher in IAU, Tabriz Branch, Tabriz, Azerbaijan Province, Iran

Journal Editorial Board

2024-Present - Associate Editor in Springer Journal of Knowledge and Information Systems (WOS JCR) (https://link.springer.com/journal/10115/editors)

2022-Present - Coordinating Editor in Springer Journal of Electronic Test (WOS JCR) (https://link.springer.com/journal/10836/editors)

2022-Present - Associate Editor in Springer Journal of System Assurance Engineering and Management (WOS JCR) (https://link.springer.com/journal/13198/editors)

2022-Present - Associate Editor in Journal of Intelligent Decision Technologies IOS Press (WOS JCR) (https://www.iospress.com/catalog/journals/intelligent-decision-technologies)

Administrative Experience

2023 - Program Committee Member, 6th International Conference on Computational Intelligence in Data Science (ICCIDS 2023), India.

2021 - Program Committee Member, 6th National Conference on Distributed Computing and Big Data Processing (DCBDP 2021), Tabriz, Iran, Feb 2021.

2018 - Program Committee Member, 4th National Conference on Distributed Computing and Big Data Processing (DCBDP 2018), Tabriz, Iran, May 2018.

2014-2016 - Chair of Computer Engineering Department, Islamic Azad University, Tabriz Branch, Tabriz, Azerbaijan Province, Iran

2014-2015 - Head of Student Programing-Contest Lab,
- Islamic Azad University, Tabriz Branch, Tabriz, Azerbaijan Province, Iran

2011
- Program Committee Member, 2nd National Student Programming Contest, Tabriz, Iran, April 2011.

2010
- Program Committee Member, 4th National SAMA Research and Skill Festival, Tabriz, Iran, Jul 2010.

R&D Project

- Advisor in a National Project in Türkiye (TUBITAK 1001).

Course Taught

- **Graduate*:***
- Software Testing and Security
- Search-Based Software Engineering
- Artificial Intelligence and its Applications in Computer Engineering
- Software Architecture
- **Undergraduate:**
- Database System Design and Implementation
- Software Verification and Testing
- Software Security
- Visual C# Programing
- Object Oriented Programming and Design
- Web Programming and Security
- Data Structures and Algorithms
- Formal Method in Software Engineering
- Principles of Compiler Design and Implementation

Peer-Reviewed Publications

Published Journal Papers:

1. **Arasteh, B.**, Arasteh, K. & Ghaffari, A. An automatic software test-generation method to discover the faults using fusion of machine learning and horse herd algorithm. J Supercomput 81, 741 (2025). https://doi.org/10.1007/s11227-025-07219-5
2. **Arasteh, B.**, Arasteh, K., Ghaffari, A. et al. A new binary chaos-based metaheuristic algorithm for software defect prediction. Cluster Comput (2024), https://doi.org/10.1007/s10586-024-04486-4
3. **Arasteh, B.**, Ghaffari, A., Khadir, M. et al. Effective test-data generation using the modified black widow optimization algorithm. SIViP (2024). https://doi.org/10.1007/s11760-024-03236-8
4. **Arasteh, B**. and Ghaffari, A., Efficient software mutation test by clustering the single-line redundant mutants, Data Technologies and Applications, Vol. ahead-of-print No. ahead-of-print, 2024, https://doi.org/10.1108/DTA-05-2023-0152
5. **Arasteh, B.**, Ghaffari, A. A Cost-effective and Machine-learning-based method to identify and cluster redundant mutants in software mutation testing. J Supercomput (2024). https://doi.org/10.1007/s11227-024-06107-8

6. **Arasteh, B**., Aghaei, B., Farzad, B. et al. Detecting SQL injection attacks by binary gray wolf optimizer and machine learning algorithms. Neural Comput & Applic 36, 6771–6792 (2024). https://doi.org/10.1007/s00521-024-09429-z
7. **Arasteh, B.**, Aghaei, B., Bouyer, A. et al. A quality-of-service aware composition-method for cloud service using discretized ant lion optimization algorithm. Knowl Inf Syst (2024). https://doi.org/10.1007/s10115-024-02086-7
8. **Arasteh, B.,** Golshan, S., Shami, S. et al., Sahand: A Software Fault-Prediction Method Using Autoencoder Neural Network and K-Means Algorithm. J Electron Test, **2024,** https://doi.org/10.1007/s10836-024-06116-8
9. **Arasteh, B**. Ghaffari, A, A Machine-Learning based Method to Reduce the Cost of Software Mutation Testing by Clustering the Single-line Redundant Mutants, Springer Journal of Supercomputing, **In press**, **2024**.
10. **Arasteh, B**., Gunes P., Bouyer A., Rouhi A., Ghanbarzadeh R., A Hybrid Chaos-based Algorithm for Data Object Replication in Distributed Systems, Taylor and Francis Journal of General Systems, **2024**, DOI: 10.1080/03081079.2024.2313159
11. **Arasteh, B.,** Arasteh, K., and et al., A Bioinspired Test Generation Method Using Discretized and Modified Bat Optimization Algorithm. *Mathematics* **2024**, *12*, 186.https://doi.org/10.3390/math12020186.
12. **Arasteh, B.**, Gunes P, Asgarali Bouyer, and et al., "A Modified Horse Herd Optimization Algorithm and Its Application in the Program Source Code Clustering", Complexity, vol. 2023, Article ID 3988288, 16 pages, 2023. https://doi.org/10.1155/2023/3988288
13. Sefati, S.S., Nor, A.M., **Arasteh, B.** et al. A Probabilistic Approach to Load Balancing in Multi-Cloud Environments via Machine Learning and Optimization Algorithms. J Grid Computing 23, 16 (2025). https://doi.org/10.1007/s10723-025-09805-6
14. Oskouei A. G., Samadi, N., Khezri, S., **Arasteh, B.**, Feature-weighted fuzzy clustering methods: An experimental review, Neurocomputing, Volume 619, 2025, 129176, ISSN 0925-2312, https://doi.org/10.1016/j.neucom.2024.129176.
15. Majidian, Z., TaghipourEivazi, S., **Arasteh, B**., Optimizing random forests to detect intrusion in the Internet of Things, Computers and Electrical Engineering, Volume 120, Part C, 2024, 109860, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2024.109860.
16. Bouyer, A., Shahgholi, P., **Arasteh, B.** Babaee E., Local core expanding-based label diffusion and local deep embedding for fast community detection algorithm in social networks, Computers and Electrical Engineering, Volume 119, Part A, 2024, 109502, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2024.109502.
17. Oskouei, A. Samadi, N., Tanha, J., Bouyer, A., Arasteh, B., Viewpoint Based Collaborative Feature Weighted Multi View Intuitionistic Fuzzy Clustering Using Neighborhood Information, Neurocomputing, Volume 617, 2025, 128884, ISSN 0925-2312, https://doi.org/10.1016/j.neucom.2024.128884.
18. Hosseinalipour, A., Ghanbarzadeh, R., **Arasteh, B**. et al. A metaheuristic approach based on coronavirus herd immunity optimiser for breast cancer diagnosis. Cluster Comput (2024). https://doi.org/10.1007/s10586-024-04360-3
19. Rouhi A., Bouyer A., **Arasteh B**., Liu X., Two-pronged feature reduction in spectral clustering with optimized landmark selection, Applied Soft Computing, Volume 161, 2024, 111775, ISSN 1568-4946, https://doi.org/10.1016/j.asoc.2024.111775.
20. Asghari, Z., **Arasteh, B**. & Koochari, A. Effective Software Mutation-Test Using Program Instructions Classification, Springer Journal of Electronic Test, Vol. 39, PP. 631–657, **2024**, https://doi.org/10.1007/s10836-023-06089-0
21. Ghaffari, A., Jelodari, N., pouralish, S., **Arasteh B.,** Securing internet of things using machine and deep learning methods: a survey. Cluster Comput (2024). https://doi.org/10.1007/s10586-024-04509-0
22. **Arasteh B**., Bouyer A., Ghanbarzadeh R., et al., Data Replication in Distributed Systems Using Olympiad Optimization Algorithm, Facta Universitatis Journal, 2023, Vol. 22, No. pp. 501-527,

https://doi.org/10.22190/FUME230707033A
23. Dashti, F., Ghaffari, A., Seyfollahi, A., **Arasteh B.**, A self-predictive diagnosis system of liver failure based on multilayer neural networks. Multimed Tools Appl, **2024**, https://doi.org/10.1007/s11042-024-18945-y
24. Wang H., **Arasteh B.**, Arasteh K., Soleimanian F. G., Rouhi A., A software defect prediction method using binary gray wolf optimizer and machine learning algorithms, Computers and Electrical Engineering, Volume 118, Part A, 2024, 109336, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2024.109336
25. Gharehchopogh, F.S., Ghafouri, S., Namazi, M., **Arasteh, B.**, Advances in Manta Ray Foraging Optimization: A Comprehensive Survey, Springer Journal of Bionic Eng, **2024**. https://doi.org/10.1007/s42235-024-00481-y
26. Soleimanian F., Abdollahzadeh B, Barshandeh S, **Arasteh B.**, A Multi-Objective Mutation-based Dynamic Harris Hawks Optimization for Botnet Detection in IoT, Internet of Things, 2023, 100952, ISSN 2542-6605, https://doi.org/10.1016/j.iot.2023.100952.
27. Bouyer, A., Mohammadi, M. & **Arasteh, B.,** Identifying influential nodes based on new layer metrics and layer weighting in multiplex networks, Springer Journal of Knowl Inf Syst (2023). https://doi.org/10.1007/s10115-023-01983-7
28. Sefati S. S., **Arasteh B.**, Halunga S., Fratu O. and Bouyer A., Meet User's Service Requirements in Smart Cities Using Recurrent Neural Networks and Optimization Algorithm, IEEE Internet of Things Journal, **2023**, doi: 10.1109/JIOT.2023.3303188.
29. **Arasteh B**, Sadegi R., Arasteh K., Gunes P., et al., A Bioinspired Discrete Heuristic Algorithm to Generate the Effective Structural Model of a Program Source Code, Journal of King Saud University - Computer and Information Sciences, **2023**, 101655, ISSN 1319-1578, https://doi.org/10.1016/j.jksuci.2023.101655.
30. Hanafi A.V., Ghaffari A., Rezaei H., **Arasteh B.**, Intrusion detection in Internet of things using improved binary golden jackal optimization algorithm and LSTM. Cluster Comput, **2023**. https://doi.org/10.1007/s10586-023-04102-x
31. **Arasteh B**., Allahviranloo T., Gunes P., Torkamanian-Afshar M., Khari M, Catak M., A Discrete Heuristic Algorithm with Swarm and Evolutionary Features for Data Replication Problem in Distributed Systems, Neural Computing and Applications, **2023**, 10.1007/s00521-023-08853-x
32. Zhou X., Bouyer A., Maleki M., Mohammadi M., **Arasteh B**., Identifying top influential spreaders based on the influence weight of layers in multiplex networks, Chaos, Solitons & Fractals, Volume 173, **2023**,113769, ISSN 0960-0779, https://doi.org/10.1016/j.chaos.2023.113769.
33. Bouyer A., Monfared M. S., Nourani E. & **Arasteh** B. Discovering overlapping communities using a new diffusion approach based on core expanding and local depth traveling in social networks, International Journal of General Systems, **2023**, DOI: 10.1080/03081079.2023.2233050
34. **Arasteh, B.**, Gharehchopogh, F.S., Gunes, P. et al. A Novel Metaheuristic Based Method for Software Mutation Test Using the Discretized and Modified Forrest Optimization Algorithm. J Electron Test **2023**. https://doi.org/10.1007/s10836-023-06070-x
35. Fan W., **Arasteh B**., Bouyer A., Majidnezhad V., A divide and conquer based development of gray wolf optimizer algorithm and its application in data replication problem in distributed systems, Journal of Supercomputing, **2023**, Vol.79, No. 5, DOI : 10.1007/s11227-023-05401-1.
36. Ahmadi B. H., Bouyer A., Azimi S., Rouhi A., **Arasteh B.**, A Fast Module Identification and Filtering Approach for Influence Maximization Problem in Social Networks, Information Sciences, **2023**, Vol. 640, 119105, ISSN 0020-0255, https://doi.org/10.1016/j.ins.2023.119105.
37. Majidian Z., TaghipourEivazi S., **Arasteh B.**, Shahram Babai, an intrusion detection method to detect denial of service attacks using error-correcting output codes and adaptive neuro-fuzzy inference, Computers and Electrical Engineering, Vol. 106, **2023**, 108600, ISSN 0045-7906, https://doi.org/10.1016/j.compeleceng.2023.108600.
38. Gharehchopogh, F.S., Ucan, A., Ibrikci, T., **Arasteh B.**, Slime Mould Algorithm: A Comprehensive Survey of Its Variants and Applications. Arch Computat Methods Eng 30, 2683–2723, **2023**.

https://doi.org/10.1007/s11831-023-09883-3
39. **Arasteh B.**, Ghanbarzadeh R., Soleimanian Gharehchopogh F., Hosseinalipour A., Generating the Structural Graph-based Model from a Program Source-code using Chaotic Forrest Optimization Algorithm, Wiley Journal of Expert Systems, **2023**, https://doi.org/10.1111/exsy.13228.
40. **Arasteh B**., Seyyedabbasi A., Rasheed J., Abu-Mahfouz A.M., Program Source-Code Re-Modularization by Using Discretized and Modified Sand Cat Swarm Optimization Algorithm, MDPI symmetry, Vol.15, No. 2, **2023**, https://doi.org/10.3390/sym15020401.
41. **Arasteh B**., Sefati SS., Halunga S., Fratu O., Allahviranloo T., A Hybrid Heuristic Algorithm Using Artificial Agents for Data Replication Problem in Distributed Systems, Symmetry, **2023**; Vol. 15, No. 2:487. https://doi.org/10.3390/sym15020487
42. Bouyer A., Ahmadi H., **Arasteh B.**, Aghaee Z., Ghanbarzadeh R., FIP: A fast overlapping community-based influence maximization algorithm using probability coefficient of global diffusion in social networks, Expert Systems with Applications, Volume 213, Part A, **2023**, 118869, ISSN 0957-4174, https://doi.org/10.1016/j.eswa.2022.118869.
43. **Arasteh, B.** Clustered design-model generation from a program source code using chaos-based metaheuristic algorithms. Neural Computing & Applications **2022**. https://doi.org/10.1007/s00521-022-07781-6
44. **Arasteh B.**, Abdi M., Bouyer A., Program source code comprehension by module clustering using combination of discretized gray wolf and genetic algorithms, Advances in Engineering Software, Volume 173, **2022**, 103252, ISSN 0965-9978, https://doi.org/10.1016/j.advengsoft.2022.103252.
45. Soleimanian F., Abollahzadeh B., **Arasteh B.**, "An Improved Farmland Fertility Algorithm with Hyper-heuristic Approach for Solving Travelling Salesman Problem: An Improved FFA with Hyper-heuristic Approach for Solving TSP", Journal of Computer Modeling in Engineering and Sciences, Accepted, September, **2022,** https://doi.org/10.32604/cmes.2023.024172
46. **Arasteh, B.**, Karimi, M.B. & Sadegi, R. Düzen: generating the structural model from the software source code using shuffled frog leaping algorithm. Neural Computing & Applications, **2022,** https://doi.org/10.1007/s00521-022-07716-1
47. **Arasteh, B.**, Imanzadeh, P., Arasteh, K. et al. A Source-code Aware Method for Software Mutation Testing Using Artificial Bee Colony Algorithm. J Electron Test 38, 289–302 **2022**. https://doi.org/10.1007/s10836-022-06008-9
48. **Arasteh, B.**, Hosseini, S.M.J. Traxtor: An Automatic Software Test Suit Generation Method Inspired by Imperialist Competitive Optimization Algorithms. J Electron Test 38, 205–215 **2022,** https://doi.org/10.1007/s10836-022-05999-9
49. **Arasteh**, **B** and Solhi, R, "Programming-level and redundancy-free method for enhancing software reliability against transient errors in hardwar", International Journal of Reliability, Quality and Safety Engineering, Vol. 29, No. 01, pp. 2150038, **2022**, DOI:10.1142/S0218539321500388.
50. **Arasteh, B**, Fatolahzadeh, A, Kiani, F. Savalan: Multi objective and homogeneous method for software modules clustering. J Softw Evol, **2022**; Vol. 34, No. 1, doi:10.1002/smr.2408.
51. **Arasteh B.,** Sadegi R. and Arasteh K. "ARAZ: A Software Modules Clustering Method Using the Combination of Particle Swarm Optimization and Genetic Algorithms", Intelligent Decision Technologies, Vol. 14, No. 4, pp. 449 – 462, 2020, DOI: 10.3233/IDT-200070
52. Hatami, E., **Arasteh, B.** An efficient and stable method to cluster software modules using ant colony optimization algorithm. J Supercomput 76, 6786–6808, **2020,** https://doi.org/10.1007/s11227-019-03112-0
53. **Arasteh, B**., Khosroshahizadeh, S., "Software reliability enhancement against hardware transient errors using inherently reliable data structures", Int J Syst Assur Eng Manag, Vol. 11, 883–898, **2020,** https://doi.org/10.1007/s13198-020-01011-9
54. Ghaemi, A., **Arasteh, B.**, "SFLA-based heuristic method to generate software structural test data", Journal of Software: Evolution and Process, Vol 32, No 1, 2047-7473, 2020, https://doi.org/10.1002/smr.2228

55. **Arasteh, B.**, Sadegi, R. and Arasteh, K. , "Bölen: software module clustering method using the combination of shuffled frog leaping and genetic algorithm", Data Technologies and Applications, Vol. ahead-of-print No. ahead-of-print. 2020, https://doi.org/10.1108/DTA-08-2019-0138
56. Shomali, N. and **Arasteh, B.** , "Mutation reduction in software mutation testing using firefly optimization algorithm", Data Technologies and Applications, Vol. 54 No. 4, 461480 , 2020. https://doi.org/10.1108/DTA-08-2019-0140
57. **Arasteh, B.**, "ReDup: A software-based method for detecting soft-error using data analysis", Computers & Electrical Engineering, Vol. 78, 2019, PP 89-107, https://doi.org/10.1016/j.compeleceng.2019.07.006.
58. **Arasteh, B.,** Najafi, J., "Programming guidelines for improving software resiliency against soft-errors without performance overhead", Computing, Vol. 100, PP. 971–1003, 2018. https://doi.org/10.1007/s00607-018-0592-y
59. **Arasteh, B.,** "A Program-Aware Fault-Injection Method for Dependability Evaluation Against Soft-Error Using Genetic Algorithm", Journal of Circuits, Systems and Computers, Vol. 27, No. 09, 1850144 (2018), https://doi.org/10.1142/S021812661850144X
60. Karimi A. Z. and **Arasteh B.,** "An Efficient Method to Generate Test Data for Software Structural Testing Using Artificial Bee Colony Optimization Algorithm", International Journal of Software Engineering and Knowledge Engineering, Vol. 27, No. 06, pp. 951-966, 2017, https://doi.org/10.1142/S0218194017500358
61. Keshtgar S. A., **Arasteh B**., "Enhancing Software Reliability against Soft-Error using Minimum Redundancy on Critical Data", Journal of Computer Network and Information Security, Vol. 5, PP. 21-30, 2017.
62. **Arasteh B.**, "Software Fault-Prediction using Combination of Neural Network and Naive Bayes Algorithm", Journal of Networking Technology, Vol. 9. No. 3, 2018, DOI: 10.6025/jnt/2018/9/3/94-101
63. **Arasteh B.,** "Improving the Resiliency of Software Against Soft-Errors Without External Redundancy and Performance Overhead, Journal of Circuits, Systems and Computers, Vol. 26, No. 07, 1750124, 2017, https://doi.org/10.1142/S0218126617501249
64. **Arasteh B.,** Bouyer A., Pirahesh S., "An efficient vulnerability-driven method for hardening a program against soft-error using genetic algorithm", Computers & Electrical Engineering, Vol. 48, 2015, PP. 25.43, https://doi.org/10.1016/j.compeleceng.2015.09.020.
65. Taghavi Afshord S., Pottosin Y., **Arasteh B**., "An input variable partitioning algorithm for functional decomposition of a system of Boolean functions based on the tabular method", Discrete Applied Mathematics, Vol. 185, 2015, PP.s 208-219, https://doi.org/10.1016/j.dam.2014.12.013.
66. **Arasteh, B.,** Miremadi, S.G. & Rahmani, A.M. "Developing Inherently Resilient Software Against Soft-Errors Based on Algorithm Level Inherent Features", Journal of Electron Test, Vol. 30, PP. 193–212, 2014. https://doi.org/10.1007/s10836-014-5438-8.
67. Bouyer, A., **Arasteh, B**., "An Adaptable Job Submission System Based on Moderate Price-Adjusting Policy in Market-Based Grids", Wireless Pers Commun, Vol. 73, PP. 1573–1590, 2013. https://doi.org/10.1007/s11277-013-1267-9.
68. **Arasteh B.**, Pirahesh S., Zakeri A., "Highly Available and Dependable E-learning Services Using Grid System", Procedia - Social and Behavioral Sciences, Vol. 143, 2014, PP. 471-476. DOI: 10.6025/jnt/2018/9/3/94-101
69. Chodari Khosrowshahi A., **Arasteh B.** , Taghavi Afshord S., "A New Strategy for Optimizing Energy and Delay in MCSMAC Protocol", Indian Journal of Science and Technology, Vol 7, No.11, 2014.

Published Conference Papers:

1. **Arasteh B.**, Sattari M. R. and Shokri Kalan R., "Fuzuli: Automatic Test Data Generation for Software Structural Testing using Grey Wolf Optimization Algorithm and Genetic Algorithm," 2022 IEEE 20th International Conf on Dependable, Autonomic and Secure Computing, Italy, **2022**, pp. 1-6, doi: 10.1109/DASC/PiCom/CBDCom/Cy55231.2022.9927968.

2. **Arasteh *B.***, Fatolahzadeh *A.*, Kiani *F., "SAVALAN: Multi Objective and Homogeneous Method for Software Modules Clustering",* 30th IEEE/ACM International Conference on Program Comprehension (ICPC 2022) collocated with 44th International Conference on Software Engineering (**ICSE 2022**), 16 May 2022, https://conf.researchr.org/profile/icse-2022/bahmanarasteh
3. **Arasteh B.**, Fallah A., Arasteh K., et al., "Cross-site Scripting Attack Detection using Combination of Multi-Layer Perceptron and Naive Bayes Algorithms", International Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, **2022**.
4. **Arasteh B.**, Arasteh K., Ahmadzadeh S., Forughifar M., "A Two-Phase Method to Predict the Software Faults using Self-organizing Map and Support-Vector Machine Algorithms", 5th Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, Octobr 2019.
5. Gharehchopogh F. S., Rezaii R. and **Arasteh B.**, "A new approach by using Tabu search and genetic algorithms in Software Cost estimation," 2015 9th IEEE International Conference on Application of Information and Communication Technologies (AICT), Rostov on Don, Russia, 2015, pp. 113-117, doi: 10.1109/ICAICT.2015.7338528.
6. Nangir A. **Arasteh B.**, "Detection of XSS Attacks using Self Organization Map Algorithm", 5th Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, Octobr 2019, (In Persian).
7. **Arasteh B.**, Rahmani A. M., Mansoor A. and Miremadi S. G., "Using Genetic Algorithm to Identify Soft-Error Derating Blocks of an Application Program", 2012 15th IEEE Euromicro Conference on Digital System Design, Izmir, 2012, pp. 359-367, doi: 10.1109/DSD.2012.136.
8. **Arasteh B.** and M. J. Hosseini, "A Dependable and Efficient Scheduling Model for Critical Applications on Grid Systems", 2011 Sixth International Symposium on Parallel Computing in Electrical Engineering, England, England, 2011, pp. 79-86, doi: 10.1109/PARELEC.2011.24.
9. Zadahmad M., **Arasteh B.**, YousefzadehFard P., "Dynamically choosing the appropriate input control strategy using novel Aspect-Oriented Software Development approach", 9th International Conference on Electronics, Computer and Computation, Ankara, Turkey, 2012.
10. Sima k., **Arasteh B**., "Investigation of Mutant Reduction in Software Testing", 4th Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, Octobr 2018, (In Persian).
11. **Arasteh B**., Rahmani, Saeed AM., Taghavi S., "A Hybrid Fault Tolerance Model for Reliable Scheduling of Critical Real-Time Applications on Grid Systems", 2010 3rd International Symposium on Parallel Architectures, Algorithms and Programming; 12/2010, DOI:10.1109/PAAP.2010.71.
12. **Arasteh B**., Bouyer A., Pirahesh S., "A New Method to Develop Reliable and Efficient Software with a limited Cost", The 13th annual research conference advancement on business, science and Technology (ARC 2014), Istanbul, Turkey, 2014.
13. Pirahesh S., **Arasteh B**., "A Fault-tolerant and Cost-based Job Scheduling Method for Grid Systems", Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, 2015.

Published Book and Book Chapters:

1. **Arasteh B**, Sadegi R., et al., (2024), Single and multi-objective metaheuristic algorithms and their applications in software maintenance, In Uncertainty, Computational Techniques, and Decision Intelligence, Decision-Making Models, Elsevier Academic Press, 2024, Pages 97-110, ISBN 9780443161476,
2. **Arasteh B.**, Babak Aghaei, et al., (2024), Constraint-based heuristic algorithms for software test generation, In Uncertainty, Computational Techniques, and Decision Intelligence, Decision-Making Models, Elsevier Academic Press, 2024, Pages 111-123, ISBN 9780443161476,
3. **Arasteh B.**, Sefati S., et al., (2024), Discretized optimization algorithms for finding the bug-prone locations of a program source code, In Uncertainty, Computational Techniques, and Decision Intelligence,Decision-Making Models, Elsevier Academic Press, 2024, Pages 125-137, ISBN 9780443161476,

4. Soleimanian F., Mirjalilib S., Gültekin I., **Arasteh B.**, (2023), "A new hybrid whale optimization algorithm and golden jackal optimization for data clustering", Elsevier Handbook of Whale Optimization Algorithm, 1st Edition - November 24, 2023, Chapter 38, ISBN: 978-0-323-95365-8.
5. Hadidi N., Akbari M., **Arasteh B.**, "English for It Students", Islamic Azad University of Tabriz, ISBN:964-978-10-5673-7, 2020.
6. **Arasteh B.**, Hosseini M.J.(2011), "A Dependable and Efficient Scheduling Model and Fault Tolerance Service for Critical Applications on Grid Systems", In: Park J.J., Yang L.T., Lee C. (eds) Future Information Technology. Communications in Computer and Information Science, vol 184. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-22333-4_13.
7. ZadahmadJafarlou M., **Arasteh B.**, YousefzadehFard P. (2012), "OO Divide and Conquer Pattern Suitable for Parallel, Grid and Cloud Computing", In: J. (Jong Hyuk) Park J., Chao HC., S. Obaidat M., Kim J. (eds) Computer Science and Convergence. Lecture Notes in Electrical Engineering, Vol. 114. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-2792-2_46.
8. **Arasteh B.**, ZadahmadJafarlou M., Hosseini M.J. (2012)," A Dynamic and Reliable Failure Detection and Failure Recovery Services in the Grid Systems", In: J. (Jong Hyuk) Park J., Chao HC., S. Obaidat M., Kim J. (eds) Computer Science and Convergence. Lecture Notes in Electrical Engineering, Vol. 114. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-2792-2_47

Skills and Experiences

- C# and Dot Net Core
- Software Test Methods
- Artificial intelligence Algorithms and Implementation
- Software API Testing with Postman Tool
- Software Security Testing with Selenium, OWASP ZAP and Acunetix tools
- Databases Design and Implementation
- Desktop and Web App. Development (Back-end and Front End)
- Implementation of Artificial intelligence algorithms in different programing languages and applications
- C++

Some of Software Development Projects (Tools)

- Development of Automatic Test-Generation Tool for Structural Testing of C# program units (Startup Project)
- Development of Automatic Mutation Test Tool for Mutation Testing of PHP program Source-code (Startup Project)
- Development of Automatic Reverse Engineering Tool for Extracting Structural Models from the Source code of Software
- Development of Software Modules Clustering Tool (Startup Project)

Some of Software Development Projects (Applications)

- Development of an Accounting App. for the Agency of Insurance Company

- Development of Accounting and Management App. for Dental Clinic Treatment Files Accounting App. for Chain Stores

SOME OF THE FORMER SUPERVISED PHD STUDENTS

	Student Name	Thesis Title
1	Seyed Mohamad, Javad Hosseini, 2018	Reducing the Cost of Software Mutation Test through Static Analysis of Source Code and Sensitive Path Detection
2	Zeynab Asghari, 2020	Classification of Program Instructions based on Error Propagting Featers for Identifying Equivalent Mutants in Software Mutation Testing
3	Ali Chodari	Community Detection in Social Networks using Complex Network

SOME OF THE FORMER SUPERVISED MASTER STUDENTS

	Student Name	Thesis Title
1	Behzad Hosseinlu, 2015	Software Fault Prediction using Executive Path Analysis and Composition of Artificial Neural Network and Support Vector Machine
2	Ahmad Dashti, 2015	Software Structural Test-Data Generation using combination of ANT Colony and Learning Automata
3	Akram Beheshti, 2015	A Method for Software Cost Estimation using Neuro-fuzzy and PSO
4	Parisa Imanzadeh, 2016	Reducing the Cost of Software Mutation Testing using Artificial Bee Colony
5	Keyvan Ebrahimi, 2016	A Test data Generation Method for Software Structural Testing Using Improved Genetic Algorithm with Bee Colony Algorithm
6	Mina Emamalipour, 2016	Quality of Service Aware Service Selection by using the Ant-lion Optimizer Algorithm
7	Yusef Movahedian 2017	Reducing the Cost of Mutation test by Decreasing the Number of Mutants through Identifying the Sensitive Part of Program
8	Amir Ghaemi, 2017	Software Structural Test case Generation Using Shuffled Frog-Leaping Algorithm
9	Hossein Jalabi, 2017	Software Fault Localization using Program Dependence Graph and Neural Network
10	Said Rahimi, 2017	Improving the Security of Database Systems against SQL Injection Attacks Using the Hash function and Web Services
11	Arman Abdollahpur, 2018	Energy aware Virtual Machine Allocation in Cloud computing using Particle Swarm Optimization and Simulated annealing
12	Maryam Zeyni, 2018	Test Cases Prioritization in Software Regression Test using Chaotic Theory
13	Vahid Hosseinzadeh, 2018	Software Test Oracle Design Using Deep Learning
14	Neda Mostafavi Khah, 2018	Using Chaotic based Two-phase Particle Swarm Optimization Algorithm to Increase the QoS of Cloud Composite Services
15	Elmira Hatami, 2019	Clustering Software Modules using Ant Colony Algorithm
16	Keyvan Arasteh, 2019	Reducing the Cost of Software Structural Testing using Program Slicing
17	Ahmad Fattolahzaeh, 2019	software Module Clustering as a Multi Objective Optimization Problem using Homogeneous Clustering Approach
18	Elmira Hatami, 2020	Clustering Software Modules using Ant Colony Algorithm

19	Behzad Gadimi, 2020	Reducing the Cost of Software Mutation Testing by Clustering the Overlapped Statement-level Mutants
20	Ayub Khani, 2020	SQL Injection Attack Detection using Learning Vector Quantization (LVQ) Algorithm
21	Mohamad Kohi, 2021	Detecting Security-vulnerability of web based software against XSS attacks using particle swarm optimization Algorithm
22	Behzad Amir Fallahi, 2021	Cross-site Scripting (XSS) Attack Detection using Combination of Multi-Layer Perceptron and Naive Bayes Algorithm
23	Milad Khadir, 2021	Software Test Data Generation using Black Widow Optimization Algorithm